

## TECHNOLOGY & HEALTH

### Motorola Inc. Joint Venture Sets Sanyo Pact

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Motif Inc., a joint venture of Motorola Inc. and In Focus Systems Inc., signed an agreement with Tottori Sanyo of Tokyo aimed at helping to establish a viable flat-panel display industry in the U.S. and at launching American display technology in Japan.

Henry Lowensohn, one of Motif's two chief executive officers, said in an interview that the pact calls for Sanyo to buy Motif's so-called active-addressing microchips, which allow relatively inexpensive screens called passive-matrix displays to handle full-motion color video. Sanyo, the world's third-largest maker of passive-matrix screens, will use the chips to make its own screens, and supply Motif with liquid-crystal cells, which Motif will connect to its active-addressing chips to increase production of screens at a plant in Wilsonville, Ore. Motorola, based in Schaumburg, Ill., will make the active-addressing chips for Motif, which along with In Focus is based in Wilsonville.

The alliance will help Motif initiate the first large-scale production of advanced liquid-crystal displays in the U.S., and promote Motif's active-addressing technology as a standard for video LCDs, Mr. Lowensohn asserted. Motif is seeking similar alliances with one or two other big Japanese or South Korean makers of passive-matrix screens.

Active addressing is considered a potential threat to steal some business away from Japan's \$3 billion active-

matrix display industry. Active matrix is an expensive, defect-plagued process in which manufacturers put transistors behind every single pixel of a screen to simultaneously receive signals carrying full-motion color video. But it has allowed Japanese firms to dominate the rapidly growing market for color-video-quality screens used in portable computers and other devices. Despite costs of \$1,200 or more for such screens, demand far exceeds supply at the moment.

An earlier technology, passive-matrix screens are too slow to provide good-quality video, because they process signals sequentially in rows and columns. But active-addressing technology uses integrated circuits located off-screen to signal all pixels constantly and simultaneously. Display experts such as Joseph Castellano, president of Stanford Resources Inc., say active addressing produces color video that's nearly as good as active matrix, but costs 25% to 30% less to manufacture.

"It's a good technology," Mr. Castellano said. "You still get better-looking and faster display with active matrix, but it's a big improvement over the conventional passive matrix."

Motif faces competition from Optrex, a joint venture of Mitsubishi Electric Corp. and Asahi Glass Co. that's exploring an addressing technique, Mr. Castellano said. It also must get its active-addressing screens to the market before other Japanese companies bring more active-matrix capacity on line, improve manufacturing quality and drive down prices.

Mr. Lowensohn is optimistic that Motif can have a major market presence within 18 months, particularly with suppliers such as Sanyo. He said production at the Wilsonville plant will reach an annual rate of 300,000 displays by that time.

"For a small incremental amount, those that don't want to pay the very high price for active matrix can get color-video performance," he said.